

## **CHAPTER 3**

### **METHODOLOGY**

#### **3.1 Introduction**

Methodology is a system that describes methods used in the theory of systematic analysis. In this study, the methodology describes the methods that will be used using paradigm and the theory of each method. There are several phases that are used throughout this study to achieve specific objectives. This chapter illustrates the methodology for this FYP to achieve the objective of the study. The methodology was important to be reaching clearly underlined activities and the tests that carried out. The literature review was collected from many sources such as journals articles, book, conference proceeding, thesis and report in order to gain valid and reliable data. The detail of the activities are shown in Figure 3.1

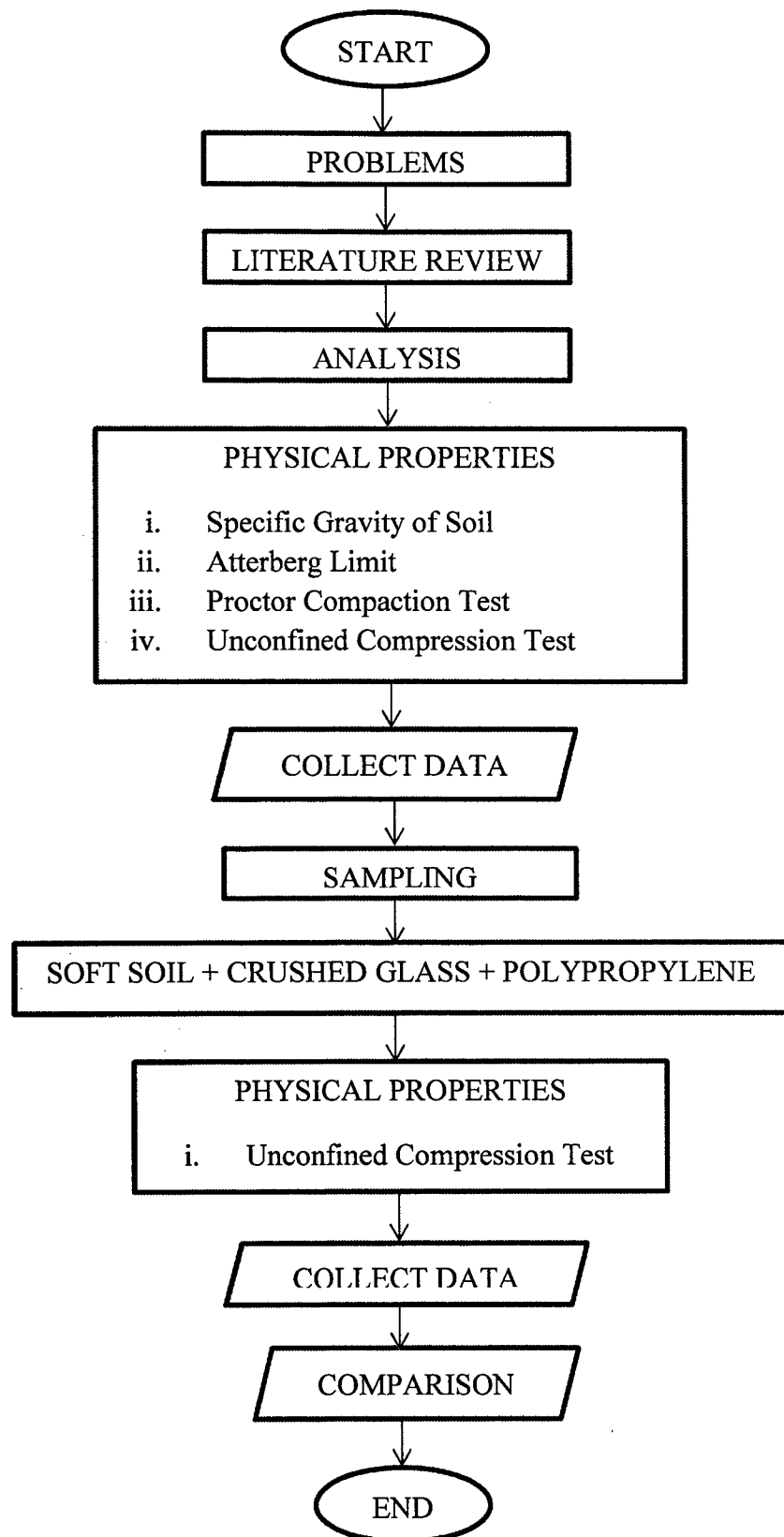


Figure 3.1 Flow chart of research methodology

### 3.2 Collection and Preparation of Sample

The soft clay were taken from Kg Tg Medang, Pekan, Pahang and saved to perform mix analysis and determine its composition. The crushed glass in this work was obtained from premises handling large quantities of containers or other products near Kuantan area. While the polypropylene obtained from soil laboratory at University Malaysia Pahang. The samples were oven dried and stored inside plastic bags to maintain their dry condition. Crushed glass and polypropylene were prepared by weight into three different percentages as shown in Table 3.1. Each percentage has 4 samples to get their average result.

Table 3.1 Mixing Percentage

Sample	Mixing percentage
1	5% Polypropylene + 5% Crushed glass
2	5% Polypropylene + 10% Crushed glass
3	5% Polypropylene + 15% Crushed glass
4	5% Polypropylene + 20% Crushed glass

The samples were oven dried for approximately 1 day and stored inside plastic bags to maintain their dry condition before being compacted to the respective maximum dry density (MDD) with their optimum moisture content (OMC), the standard is according to the standard proctor compaction test.

For untreated soft clay, air-dried soil is mixed with water according to the OMC of the soil. For treated soft clay, the sample is mixed with air-dried soil using hand to ensure